

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of creating a tree-like data structure for use in carrying out [range specified rule] traffic flow evaluations, the tree-like data structure having a [[rule]] range-specified rule set where each rule in the rule set has ~~an equal~~ a finite number of fields rules and has multiple fields specified by ranges, where a range is an integer interval with a lower bound and an upper bound and each field specifies a range having an upper and lower bound, there being the same number of layers in the tree-like data structure as there are fields in each rule [[set]], where each layer is comprised of nodes, each of said nodes having an associated rule set selected from the range-specified rule set, the method comprising:

~~creating~~ forming a first layer of the tree-like data structure made up of a set of non-overlapping ranges integer intervals; and

~~creating~~ forming one or more additional layers, each additional layer being made up of [[sets]] a set of non-overlapping ranges integer intervals and [[sets]] a set of overlapping ranges integer intervals to provide said tree-like data structure;

wherein ~~range-specified rule~~ the traffic flow evaluations [[are]] can be carried out by one pass through the tree-like data structure.

2. (Currently amended) The method as defined in claim 1 wherein the tree-like data structure is a disjoint graph with the non-overlapping ranges integer intervals representing elementary intervals and the overlapping ~~ranges and integer intervals~~ representing disjoint intervals, wherein disjoint intervals are intervals formed from overlapping integer intervals by combining them to form integer intervals that are disjoint from each other.

3. (Currently Amended) The method as defined in claim 2 wherein the range specified rule evaluations ~~relate to~~ are incorporated in packet classification in communications systems a communication system.

4. (Currently Amended) ~~A system for creating a tree like data structure for use in carrying out range specified rule evaluations, the data structure having a rule specified rule set where each rule in the rule set has an equal number of fields and each field specifies a range having an upper and lower bound, there being the same number of layers in the structure as there are fields in each rule set, the system comprising:~~

~~means for creating a first layer of the structure made up of a set of non overlapping ranges; and~~

~~means for creating one or more additional layers each made up of sets of non overlapping ranges and sets of overlapping ranges;~~

~~wherein range specified rule evaluations are carried out by one pass through the data structure~~ A tree-like data structure created in accordance with the method of claim 1 stored on a computer readable medium for classifying packets.

Claims 5 - 7 (CANCELLED).

8. (Currently Amended)) ~~A method of creating an augmented~~ In a computer-based communication system, a method of providing a binary tree structure from a range specified rule set, each rule in the rule set having an equal number of fields and each field specifying a range having an upper and lower bound forming a set of intervals, the method comprising:

projecting end points of each interval of the set of intervals onto a line, the end points dividing the line into non-overlapping elementary intervals; and

forming the tree structure such that each node of the tree contains a single elementary ~~intervals~~ interval, an indication of original intervals associated with the elementary interval, and pointers to any adjacent nodes in the tree.

9. (ORIGINAL) The method as defined in claim 8 wherein the augmented binary tree structure is used for stabbing queries.

10. (CURRENTLY AMENDED) The method as defined in claim 8 wherein the ~~augmented~~ binary tree structure is an elementary intervals tree for use in packet classification ~~[[of]]~~ in said computer-based ~~communications systems~~ communication system.

Claims 11 - 13 (CANCELLED).

14. (CURRENTLY AMENDED) ~~[[A]]~~ In a computer-based communication system, a method of ~~creating~~ providing a disjoint intervals tree from a range specified rule set, each rule in the rule set having an equal number of fields and each field specifying a range having an upper and lower bound forming a set of intervals, the method comprising:

combining overlapping intervals of the set of intervals to form larger intervals that are disjoint to each other; and

~~evaluating the overlapping intervals to find~~ finding the maximum disjoint intervals for the set of intervals.

15. (CURRENTLY AMENDED) The method as defined in claim ~~11~~ 14 ~~for use in 14 comprising~~ packet classification in a ~~computer-based communications~~ said computer-based communication system.

Claims 16 and 17 (CANCELLED).

18. (CURRENTLY AMENDED) An ~~augmented~~ binary tree structure created in accordance with the method of claim 8 stored on a computer readable medium for classifying packets.

Claim 19 (CANCELLED).